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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,920	12/14/2004	Cecile Dufour	FR 020058	8888
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EXAMINER				
WERNER, DAVID N				
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2621				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/517,920

Applicant(s)

DUFOUR ET AL.

Examiner

David N. Werner

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/86)
Paper No(s)/Mail Date 20041214, 20060315
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

1. This is the First Action on the Merits of US Patent Application 10/517,920, which is the National Stage Entry under 35 U.S.C. 371 of International Application PCT/IB/02647, filed 06 June 2003, and claims priority to European Patent Application 02291520.1, filed 18 June 2002. Currently, claims 1-12 are pending.

Information Disclosure Statement

2. The information disclosure statement filed 15 March 2008 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 12 recites a "device for receiving and decoding a video signal", goes on to

describe the signal, and concludes by stating that the decoding device is "further characterized in that it includes means for reading in the received coded bitstream the specific spatial resolution of each of said separate channels". This is a **single means claim** that covers every conceivable means for achieving the purpose of receiving and decoding the video signal, and is not limited to those means disclosed in the specification. *In re Hyatt*, 708 F.2d 712, 714-15, 218 USPQ 195, 197 (Fed. Cir. 1983).

Claim Rejections – 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-9 and 11 are rejected under 35 U.S.C. §101 as directed to non-statutory subject matter.
7. Supreme Court precedent¹ and recent Federal Circuit decisions² indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim(s) recite a series of steps or acts to be performed, the claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. In the present invention,

¹ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 US 780, 787-88 (1876).

² *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

nowhere in method claims 1-9 is stated what performs the method of generating the coded bitstream.

8. Claim 11 defines a "signal" *per se*. A signal does not fall within any of the four statutory classes of §101. Rather, a signal is a form of energy, in the absence of any physical structure or tangible material. *In re Nuijten*, 84 USPQ2d 1495 (Fed. Cir. 2007).

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by "MPEG-4 Video Verification Model version 18.0" (Li et al.). Li et al. describes various features of MPEG-4 video encoding and decoding.

11. Regarding claim 1, in MPEG-4, "a scene is viewed as a composition of Video Objects", subdivided into Video Object Planes (VOPs), with spatial scalability of a series of VOPs presented as a channel called a Video Object Layer (VOL) (pg. 12). Figure 40 illustrates a multi-channel system. In this example, a bitstream is divided into a base layer and an enhancement layer at a higher resolution (pg. 78). If the scalability is a spatial scalability, as in the present invention, the enhancement layer is upsampled (pg. 78), and so has a higher spatial resolution. For example, a base layer may be at QCIF resolution and an enhancement layer is at CIF resolution (pg. 79). Then, the encoding

system shown in figure 40 generates "a coded bitstream" having "separate channels" of different spatial resolutions. Section 3.7.1 describes the spatial scalability encoding process, in which a lower-layer VOP is upsampled to produce an enhancement-layer VOP in the enhancement VOL (pg. 79). The enhancement layer is described in terms of a vertical and horizontal scaling factor (pp. 79-80), presented as a fraction (pg. 184) in the VOL syntax (pg. 110) for the enhancement layer. These syntax elements are the "syntactic means for describing the spatial resolution" of the enhancement channel, and the reference VOP height and width syntax elements (pg. 114) are the "syntactic means for describing the spatial resolution" of the base channel.

Regarding claim 2, each VOP contains a width field and a height field (pg. 114). These are the claimed "specific syntax elements for separately describing the spatial resolution of each image of the input sequence".

Regarding claim 3, in a VOP header, a `vop_width` field and a `vop_height` field are conditional on the presence of a header extension code (pg. 121).

Regarding claim 4, a VOP header also includes fields describing the sizes of neighboring VOPs: `backward_shape_width`, `backward_shape_height`, `forward_shape_width`, and `forward_shape_height` (pg. 188).

Regarding claim 5, in the enhancement layer, the spatial resolution is presented as a scaled value relative to the VOP size of the base layer, or the claimed "reference spatial resolution".

Regarding claim 6, in Li et al., VOP resolution in a base layer is indicated in a VOP header (pg. 114).

Regarding claim 7, in Li et al., enhancement layer size is scaled from a vop_height field, which is the height of the reference VOP, and a vop_width field, which is the width of the reference VOP (pg. 80).

Regarding claims 8 and 9, the vertical and horizontal sampling factors are each encoded as a numerator-denominator pair (pg. 184) relative to the base layer resolution.

Regarding claim 10, in the encoder structure of figure 40, the scalability preprocessor that separates an incoming bitstream into two channels of VOPs is the claimed "means for structuring each scene" into VOs. The pair of MPEG-4 coders is the "means for coding the shape, the motion and the texture of each of said VOs". The MSDL Mux is the claimed "means for multiplexing the coded elementary streams" (pg. 78).

Regarding claim 11, a spatially-scaled MPEG-4 bitstream comprising a plurality of VOLs of different spatial resolutions is the claimed "transmittable video signal".

Regarding claim 12, in the decoder structure of figure 40, the scalability post-processor (pg. 78) that mixes together the base and enhancement layers to produce a high-resolution output is the claimed "means for reading in the received coded bitstream the specific spatial resolution of each of said separate channels".

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- US Patent 6,459,814 B1 (Li et al.)
- US Patent 6,580,754 B1 (Wan et al.)
- "MPEG-4 video verification model: a video encoding/decoding algorithm based on content representation" (Ebrahimi)
- "Scalable Internet video using MPEG-4" (Radha et al.)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David N. Werner whose telephone number is (571)272-9662. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Marsha D. Banks-Harold/
Supervisory Patent Examiner, Art Unit 2621
/D. N. W./
Examiner, Art Unit 2621